

## Complex Fractions

Simplify each expression.

1) 
$$\frac{\frac{2}{9} - \frac{4}{25}}{6}$$

2) 
$$\frac{\frac{2}{9} - \frac{1}{3}}{\frac{3}{25}}$$

3) 
$$\frac{\frac{4}{3}}{\frac{3}{8} - \frac{4}{9}}$$

4) 
$$\frac{\frac{3}{16} - \frac{9}{4}}{12}$$

5) 
$$\frac{\frac{4}{9} + \frac{9}{4}}{\frac{9}{4}}$$

6) 
$$\frac{\frac{25}{16} + \frac{1}{3}}{\frac{4}{9} + \frac{5}{4}}$$

7) 
$$\frac{\frac{3}{2} + \frac{1}{9}}{\frac{4}{49} - \frac{7}{6}}$$

8) 
$$\frac{\frac{1}{4} + \frac{1}{3}}{\frac{16}{5} + \frac{5}{4}}$$

9) 
$$\frac{\frac{7}{8} - \frac{9}{4}}{\frac{1}{3} + \frac{8}{9}}$$

10) 
$$\frac{\frac{36}{25} + \frac{1}{6}}{\frac{3}{2} - \frac{2}{5}}$$

11) 
$$\frac{\frac{1}{2}}{\frac{x^2}{4} + \frac{2}{3}}$$

12) 
$$\frac{4}{\frac{3}{u^2} + \frac{4}{9}}$$

$$13) \frac{\frac{2a}{9}}{\frac{a}{2} + \frac{1}{a}}$$

$$14) \frac{\frac{3}{2} - \frac{4}{x^2}}{4}$$

$$15) \frac{3}{\frac{2}{a^2} + \frac{a^2}{4}}$$

$$16) \frac{\frac{5}{16} + \frac{4}{5m}}{\frac{16}{3} - \frac{3}{5m}}$$

$$17) \frac{\frac{3}{2} + \frac{x}{16}}{\frac{8}{9} + \frac{4}{x^2}}$$

$$18) \frac{\frac{4}{m^2} + \frac{3}{2}}{\frac{9}{2} - \frac{5}{m}}$$

$$19) \frac{\frac{1}{5} - \frac{5}{x^2}}{\frac{x^2}{5} + \frac{1}{4}}$$

$$20) \frac{\frac{25}{8} - \frac{4}{5}}{\frac{4}{x^2} + \frac{5}{2x}}$$

$$21) \frac{\frac{2}{y}}{\frac{4}{x^2} - \frac{y^2}{2}}$$

$$22) \frac{\frac{y^2}{x}}{\frac{2}{y^2} + \frac{y^2}{4}}$$

$$23) \frac{\frac{y}{y^2} - \frac{x}{4}}{\frac{x}{4} + \frac{1}{y}}$$

$$24) \frac{\frac{u}{2} - \frac{1}{u}}{\frac{u}{v}}$$

$$25) \frac{\frac{4}{y}}{\frac{2}{x} - \frac{2}{y}}$$

$$26) \frac{\frac{x}{y} - \frac{y}{x}}{\frac{x}{y} - \frac{3}{2}}$$

$$27) \frac{\frac{3}{u^2} + \frac{2u}{9}}{\frac{4}{u^2} + \frac{2}{v}}$$

$$28) \frac{\frac{4}{3} - \frac{ab}{3}}{\frac{a}{3b} - \frac{3}{a}}$$

$$29) \frac{\frac{1}{y} + \frac{4}{x}}{\frac{3}{4} - \frac{x^2}{4}}$$

$$30) \frac{\frac{2}{b} + \frac{b}{3}}{\frac{a}{b} - \frac{a}{b^2}}$$

$$31) \frac{\frac{4}{x-1} - \frac{x-1}{2}}{\frac{x+2}{x-1}}$$

$$32) \frac{\frac{m-1}{2}}{\frac{m+2}{m-1} - \frac{2}{m+2}}$$

$$33) \frac{\frac{x+2}{x-2} + \frac{2}{x-2}}{x+2}$$

$$34) \frac{\frac{m-1}{m+1}}{\frac{2}{m+1} + \frac{4}{m-1}}$$

$$35) \frac{\frac{x+2}{x-2} + \frac{x-2}{x+2}}{x+2}$$

$$36) \frac{\frac{x-2}{x-1} - \frac{2x-4}{x+2}}{\frac{x-1}{4} + \frac{x-1}{4}}$$

$$37) \frac{\frac{2x+1}{2x-2} + \frac{x+1}{2}}{\frac{2x-2}{x+1} - \frac{x+1}{x-1}}$$

$$38) \frac{\frac{2x-1}{3x-2} - \frac{1}{2}}{\frac{3x-2}{2x-1} - \frac{4}{2x-1}}$$

$$39) \frac{\frac{u-1}{4} - \frac{3u-1}{u-1}}{\frac{3u-1}{u-1} - \frac{2}{u-2}}$$

$$40) \frac{\frac{4}{x+2} - \frac{x+1}{x+2}}{\frac{x-2}{x+2} + \frac{4}{x+2}}$$

## Answers to Complex Fractions

$$1) \frac{7}{675}$$

$$5) \frac{97}{81}$$

$$9) -\frac{9}{8}$$

$$13) \frac{4a^2}{9a^2 + 18}$$

$$17) \frac{216x^2 + 9x^3}{128x^2 + 576}$$

$$21) \frac{4x^2}{8y - y^3x^2}$$

$$25) \frac{2x}{y - x}$$

$$29) \frac{4x + 16y}{3yx - yx^3}$$

$$33) \frac{x + 4}{x^2 - 4}$$

$$37) \frac{3x^2 + 2x + x^3}{2x^2 - 12x + 2}$$

$$40) \frac{3 - x}{x + 2}$$

$$2) -\frac{25}{27}$$

$$6) \frac{273}{244}$$

$$10) \frac{241}{165}$$

$$14) \frac{3x^2 - 8}{8x^2}$$

$$18) \frac{8 + 3m^2}{9m^2 - 10m}$$

$$22) \frac{4y^4}{8x + xy^4}$$

$$26) \frac{2x^2 - 2y^2}{2x^2 - 3xy}$$

$$30) \frac{6b + b^3}{3ab - 3a}$$

$$34) \frac{m^2 - 2m + 1}{6m + 2}$$

$$38) \frac{2x^2 - x}{18x^2 - 48x + 24}$$

$$3) -\frac{96}{5}$$

$$7) -\frac{49}{33}$$

$$11) \frac{6}{3x^2 + 8}$$

$$15) \frac{12a^2}{8 + a^4}$$

$$19) \frac{4x^2 - 100}{4x^4 + 5x^2}$$

$$23) \frac{4y^2}{y^3 + 4x}$$

$$27) \frac{27v + 2vu^3}{36v + 18u^2}$$

$$31) \frac{7 - x^2 + 2x}{2x + 4}$$

$$35) \frac{x^2 + 4x + 4}{2x - 4}$$

$$39) \frac{u^3 - 16u^2 + 33u - 10}{12u^2 - 36u + 16}$$

$$4) -\frac{11}{64}$$

$$8) \frac{35}{267}$$

$$12) \frac{36u^2}{27 + 4u^2}$$

$$16) \frac{75m + 192}{1280m - 144}$$

$$20) \frac{93x^2}{160 + 100x}$$

$$24) \frac{vu^2 - 2v}{2u^2}$$

$$28) \frac{4ba - b^2a^2}{a^2 - 9b}$$

$$32) \frac{m^3 + 2 - 3m}{2m^2 + 4m + 12}$$

$$36) \frac{-2x^2 + 12x - 16}{x^3 + 2 - 3x}$$